```
Set      Items    Description
S1       25074    LEDS OR LIGHT()(EMIT? OR EMISSION)()DIODE?
S2        2323    S1(3N)(PLURAL? OR MANY OR SEVERAL OR NUMEROUS OR MULTI OR -
                  MULTIPLE)
S3         926    (BACKLIGHT? OR BACK()LIGHT?)(S)DISPLAY?(S)(RGB OR RED()GRE-
                  EN()BLUE OR COLOUR? OR COLOR?)
S4       39691    (RESISTANCE?(3N)VALUE? OR BRIGHTNESS OR INTENSIT?)(S)(PRED-
                  ETERMIN? OR SPECIFIC OR SPECIFIED OR SET OR PRESELECT? OR PRE-
                  SET OR PRE()(SELECT? OR SET OR DETERMIN? OR SELECT? OR SPECIF-
                  IED))
S5      487353    CURRENT? OR ELECTRICITY? OR VOLT? OR POWER()SOURCE?
S6       10410    PWM OR PULSE()WIDTH()MODULAT?
S7       11653    DUTY(3N)(CYCLE? OR VALUE?)
S8      280912    S5(S)(CONTROL? OR MANAG? OR ADJUST? OR MODIF? OR ALTER? OR
                  INCREASE? OR DECREAS?)
S9       14181    (WIRELESS OR WIRE()LESS OR IR OR INFRARED)(3N)(DEVICE? OR -
                  UNIT??)
S10      78940    (MOBILE OR RADIO OR PORTABLE OR CELLULAR OR REMOTE OR WIRE-
                  ()LESS)(3N)(UNIT? OR DEVICE? ? OR APPARATUS OR TELEPHONE? ? OR
                  TERMINAL?)
S11      12900    (WIRELESS OR CELL? OR MOBILE)()PHONE? OR CELLPHONE?
S12      40410    PDA OR PERSONAL()DIGITAL()ASSISTANT? OR (POCKET OR PORTABLE
                  OR PALM()TOP OR PALMTOP OR HAND()HELD OR HANDHELD)()(COMPUTE-
                  R? OR DEVICE?) OR PALM OR NEWTON
S13        467    IC=(G09G-003/34 OR G09G-003/32)
S14          3    S2(S)S3(S)S8
S15         40    S5(S)S6(S)S7(S)S1
S16          1    S15(S)S9:S12
S17          0    S15(S)S3
S18          8    S15(S)(BACKLIGHT? OR BACK()LIGHT? OR RGB OR RED()GREEN()BL-
                  UE OR COLOUR? OR COLOR?)
S19          8    S18 NOT (S14 OR S16)
S20          6    S19 NOT AD=19990120:20020725
S21          0    S13(S)S1
S22        140    S13 AND S1
S23         68    S22(S)S5
S24         11    S23(S)S4
S25          6    S24 NOT (S18 OR S14 OR S16)
S26          2    S25 NOT AD=19990120:20020725
```

  14/3,K/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00911258   **Image available**
INFORMATION SYSTEMS
SYSTEMES D'INFORMATION
Patent Applicant/Assignee:
  COLOR KINETICS INCORPORATED, 10 Milk Street, Suite 1100, Boston, MA 02108
    , US, US (Residence), US (Nationality), (For all designated states
    except: US)
Patent Applicant/Inventor:
  DOWLING Kevin, 23 Village View Road, Westford, MA 01886, US, US
    (Residence), US (Nationality), (Designated only for: US)
  CHEMEL Brian, 260 Lafayette Street #2, Salem, MA 01970, US, US
    (Residence), US (Nationality), (Designated only for: US)
  SCHANBERGER Eric, 80 Auburn Park, Apt. 601, Cambridge, MA 02139, US, US
    (Residence), US (Nationality), (Designated only for: US)
  MORGAN Frederick, 157 Butler Road, Quincy, MA 02169, US, US (Residence),
    US (Nationality), (Designated only for: US)
  DUCHARME Alfred, 27 Patrick Road, Tewksbury, MA 01876, US, US (Residence)
    , US (Nationality), (Designated only for: US)
  LYS Ihor, 476 Beacon Street, Apartment 6, Boston, MA 02115, US, US
    (Residence), US (Nationality), (Designated only for: US)
  MINCHEVA Adriana, 14 russel Street, Apt. 21, Quincy, MA 02171, US, US
    (Residence), US (Nationality), (Designated only for: US)
  BLANC Christian P, 4 Spring Lane, Cambridge, MA 02141, US, US (Residence)
    , US (Nationality), (Designated only for: US)
Legal Representative:
  TEJA Joseph Jr (agent), Wolf, Greenfield & Sacks, P.C., 600 Atlantic
    Avenue, Boston, MA 02210, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200245467 A2 20020606 (WO 0245467)
  Application: WO 2001US43288 20011120 (PCT/WO US0143288)
  Priority Application: US 2000252004 20001120; US 2001262022 20010116; US
    2001262153 20010117; US 2001268259 20010213; US 2001296219 20010606
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU
  CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
  KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU
  SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 30930
Fulltext Availability:
  Claims

Claim
... wherein the at least
  two LEDs emit at least two different colors; and
  providing a **controller** for **controlling** the at least two LEDs, wherein
  the **controller** is associated with a program signal input.
  102. A method of claim 101 further comprising:
  providing memory for storing lighting **control** signals wherein the
  memory is associated with the **controller** . 103. A method of claim 1 0 1
  wherein the program signal input is at...

...backlighting of the LCD panel. 107. A method of claim 1 0 1 wherein the
  controller independently controls at least two of the at least two LEDs.
  108. A method of claim 107 wherein the **controller** controls the LEDs
  with pulse width modulation.
  109. A method of providing a telephone comprising...

...wherein the at least

two LEDs emit at least two different colors; and
providing a **controller** for **controlling** the LEDs wherein the
controller is associated with a program signal input.
110. Amethodofclaim109whereinthetelephoneftirthercomprisesatleastoneofa
telephone, phone, cellular phone, digital phone...

...wherein the at least
two LEDs emit at least two different colors; and
providing a **controller** for **controlling** the at least two LEDs wherein
the **controller** is associated with a sensor. 112. A system for
identifying the origin of a phone...

...wherein the program signal includes information regarding the
origin of a phone call; and
a **controller** for changing the color of the back lighting system to
correspond to the information. 113...

...LEDs wherein the at least two LEDs are at least two
different colors;
providing a **controller** wherein the **controller** independently controls
the at least
two LEDs and is associated with a program signal input...

...comprising:
a panel having a liquid crystal;
an illumination system for the panel comprising a **plurality** of **LEDs**
of different
 colors ; and
- 77 a **controller** for **controlling** the LEDs to illuminate the panel in
response to an input signal that is representative...

...gaming device, a portable device, a pager, a calculator, a computer, an
information device, a **display** screen, an MP3 player, a music player, a
minidisk player, a CD player, a DVD player, and a satellite phone.
116. Asystemofclaim114,whereintheinputsignalrelatestoanincomingphonecall
lo and wherein the illumination system is **controlled** to indicate
information about the call.
117. Asystemofclaim114,whereintheilluininationsystemaltersthedisplayasan
indicator of an incoming call.
118...

...device, wherein the input signal is related to stock market infonnation,
and wherein the background **color** of a **display** of the wireless device
changes in conjunction with changes in selected stock information. 123. A
...
...about an account. 127. A system of claim 1 14, wherein the panel
comprises a **display** panel for a game and wherein the input signal is
associated with input from the...

...the game. 130. An automotive instrument panel with informational
lighting comprising:
at least two different **colored** LEDs;
a processor wherein the processor controls the at least two different
colored LEDs and the processor is associated with a receiver for
receiving signals; an instrument **display** wherein the at least two LEDs
are directed to cause
illumination of the instrument **display** ;
a sensor for sensing and transmitting signals. - 79 131. A system of
claim 130 wherein the LEDs are directed to illuminate the instrument
display by at least one of edge lighting, **back lighting** , and surface
lighting. 132. A system of claim 130 wherein the instrument **display** is
at least one of an instrument panel, panel tachometer, speedometer,
clock, pressure gauge, temperature...

...the memory is associated with the processor;
wherein the memory is capable of storing lighting **control** signals and
the processor is capable of retrieving the **control** signals for
controlling the LEDs.

...system;
 wherein the information system provides information about the item and
 the illumination system is **controlled** to provide illumination that
 indicates the information. 230. A system of claim 229, wherein the...

...acceleration, exposure to forces, exposure to vibration, exposure to
 light, exposure to shock, exposure to **electricity** , exposure to sound,
 exposure to humidity, and exposure to magnetism. 234. A system of claim
 ...
...amount of time in excess of a selected amount of time.
 238. Asystemofclaim229,whereintlieilluminationsystemgraduallychangestoa
 selected **color** with the passage of time.
 239. Asystemofclaim238,wliereintheilluminationsystemchangestoredwith
 passage of time. 240. A system of...

...facility. 246. A system of claim 229, wherein the information system
 stores first information for **controlling** illumination prior to an item
 being **displayed** for retail purposes and second information for
 controlling illumination when the item is being **displayed** for retail
 purposes. - 91 247. A system of claim 246, wherein the first information
 controls...

...of providing an indicator for a package, comprising:
 providing at least one LED:
 providing a **controller** for generating and communicating **control**
 signals to the at   least one LED wherein the **controller** is associated
 with a program input for receiving
 signals indicative of environmental conditions; and
 providing...

...A method of providing a package indicator comprising:
 providing two or more LEDs:
 providing a **controller** for generating and communicating **control**
 signals to the two or more LEDs wherein the **controller** is associated
 with a program input for
 receiving signals indicative of environinental conditions; and
 providing...

...system; wherein the information system provides information about the
 item and the illumination system is **controlled** to provide illumination
 that indicates the information.
 251. Amethodofclaim250,whereintheitemisapackageandtheillumination
 system indicates information about the...

 14/3,K/2   (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00561728   **Image available**
ELECTRONIC COUPLING STUD FOR A VIBRATION MEASURING SYSTEM
GOUJON DE COUPLAGE ELECTRONIQUE POUR SYSTEME DE MESURE DES VIBRATIONS
Patent Applicant/Assignee:
 SKF CONDITION MONITORING INC,
Inventor(s):
 MCCARTY William A,
 THOMPSON Stephan L,
 BARCLAY John T,
Patent and Priority Information (Country, Number, Date):
 Patent: WO 200025101 A1 20000504 (WO 0025101)
 Application: WO 99US24618 19991022 (PCT/WO US9924618)
 Priority Application: US 98178068 19981023
Designated States: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 11039

Fulltext Availability:

Detailed Description

Detailed Description
... handheld vibration monitor 20 is shown in side view and top view
   respectively, illustrating the **display** 26 and keypad 28 on the housing
   21 in Figure 2a. In addition to the **display** , which advantageously
   comprises an LCD **display** , **several** different **color** alarm **LEDs** 27
   may also be provided. The keypad 28 may include three separate function
   keys. One key 30, preferably comprisles an "ONIOFF" key for unit
   activation. A second " **BACKLIGHT** " key 32 turns a **display** **backlight**
   on and off. A " **DISPLAY** " key 34 allows the user to scroll through
   several **alternate** **displays** , such as a **display** of the value
   currently being measured, a **display** of **current** alarm setpoints, or a
   display of **current** danger setpoints.

   In some embodiments of the present invention, two "TAKE DATA" buttons 36,
   38...

 14/3,K/3   **(Item 3 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.

00474134   **Image available**
VIBRATION MONITORING SYSTEM
SYSTEME DE MESURE DES VIBRATIONS
Patent Applicant/Assignee:
  SKF CONDITION MONITORING,
Inventor(s):
  MCCARTY William A,
  DRURY Jerry,
  CALDERWOOD Bryan,
  THOMPSON Steve,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9905486 A2 19990204
  Application: WO 98US15044 19980722 (PCT/WO US9815044)
  Priority Application: US 97898485 19970722; US 97898678 19970722
Designated States: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 10653

Fulltext Availability:
  Detailed Description
Detailed Description
... handheld vibration monitor 20 is shown in side view and top view
   respectively, illustrating the **display** 26 and keypad 28 on the housing
   21 in Figure 2a. In addition to the **display** , which advantageously
   comprises an LCD **display** , **several** different **color** alarm **LEDs** 27
   may also be provided. The keypad 28 may include three separate function
   keys. One key 30, preferably comprises an "ONIOFF" key for unit
   activation. A second " **BACKLIGHT** " key 32 turns a **display** **backlight**
   on and off. A " **DISPLAY** " key 34 allows the user to scroll through
   several **alternate** **displays** , such as a **display** of the value
   currently being measured, a **display** of **current** alarm setpoints, or a
   display of **current** danger setpoints.

   In some embodiments of the present invention, two "TAKE DATA" buttons 36,
   38...
?

00245383
PORTABLE SPIROMETER WITH IMPROVED ACCURACY
SPIROMETRE PORTABLE A PRECISION AMELIOREE
Patent Applicant/Assignee:
   GOVERNMENT OF THE UNITED STATES as represented by THE SECRETARY
      DEPARTMENT OF HEALTH AND HUMAN SERVICES,
   HANKINSON John L,
   VIOLA Joseph O,
   EBELING Thomas R,
Inventor(s):
   HANKINSON John L,
   VIOLA Joseph O,
   EBELING Thomas R,
Patent and Priority Information (Country, Number, Date):
   Patent: WO 9319669 A2 19931014
   Application: WO 93US3030 19930331   (PCT/WO US9303030)
   Priority Application: US 92625 19920331
Designated States: AU CA JP US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT
   SE
Publication Language: English
Fulltext Word Count: 13404
Fulltext Availability:
   Claims

Claim
...   corrective signal.
   In such an embodiment, data collector 32, is
   reconfigured as a stand alone, **portable** spirometer,
   including **apparatus** f or using a modified dithering of
   the input signal and thus improving the resolution...

...flow
   chart shown in Fig 17. Figure 1G illustrates a
   hardware connection wherein a correction **voltage** ,
   generated as a **pulse - width - modulated** signal (PWX) by
   the module of Figure 14 (or elsewhere) on the TDS2020
   boardr is converted to a DC **voltage** by a low pass
   filter (LPF) 52 and is symbolically added by adder 54
   to the pressure signal from the transducer, as
   amplified by amplifier 56. The **PWM** signal may be
   generated by a circuit such as timer 48 of Fig, 14, and...

...connection is shown at Figure
   21.
   It will be appreciated that, by varying the PWX
    duty **cycle** , the resultant DC (or average) **voltage** level
   thereof is changed, thereby shifting the flow signal up
   or down, as necessary. The...

01414786
Multicolored led lighting method and apparatus
Verfahren und Einrichtung zur mehrfarbigen Beleuchtung durch Leds
Procede   et   dispositif   pour   eclairage   multicolore   a   diodes
    electroluminescentes
PATENT ASSIGNEE:
  Color Kinetics Incorporated, (2719180), 50 Milk Street, Boston, MA 02109,
    (US), (Applicant designated States: all)
INVENTOR:
  Mueller, George G., 234 Hanover Street No. 3, Boston, MA 02113, (US)
  Lys, Ihor A., 476 Beacon Street, Apt. 6, Boston, MA 02115, (US)
LEGAL REPRESENTATIVE:
  HOFFMANN - EITLE (101511), Patent- und Rechtsanwalte Arabellastrasse 4,
    81925 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1195740 A2 020410 (Basic)
APPLICATION (CC, No, Date):   EP 2001130297 980826;
PRIORITY (CC, No, Date): US 920156 970826
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
  LU; MC; NL; PT; SE
RELATED PARENT NUMBER(S) - PN (AN):
  EP 1016062 (EP 98944539)
INTERNATIONAL PATENT CLASS: G09G-003/32; H05B-037/02
ABSTRACT WORD COUNT: 121
NOTE:
  Figure number on first page: 1   2

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
     CLAIMS A (English)   200215   1955
     SPEC A   (English)   200215   5037
Total word count - document A   6992
Total word count - document B   0
Total word count - documents A + B   6992

...SPECIFICATION addresses some, but not all of the switching problems
  associated with Phares. Havel uses a **pulse   width   modulated** signal
  to provide **current** to respective **LEDs** at a particular **duty   cycle** .
  However, no provision is made for precise and rapid control over the
  colors emitted. As a stand alone unit, the apparatus in Havel suggests
  away from network lighting, and therefore lacks any teaching as to how to
  implement a **pulse   width   modulated** computer lighting network.
  Further, Havel does not appreciate the use of **LEDs** beyond mere
  displays, such as for illumination.
    U.S. Patent No. 5,184,114, issued...LED will go through nearly two
  cycles without experiencing the zero current state of its **duty   cycle** .
  For instance, assume the red register is set at 4 and the counter is set
  ...

...it is frozen. Here, the counter is frozen just before the "off'part" of
  the **PWM** cycle is to occur for the red **LEDS** . Now assume that the
  network data changes the value in the red register from 4...

...intensity value in the red register, the output state is still "on",
  meaning that maximum **current** is still flowing through the red **LEDS** .
  Meanwhile, the blue and green **LEDs** will probably turn off at their
  appropriate times in the **PWM** cycle. This would be perceived by the
  human eye as a red flicker in the course of dimming the **color**
  intensities. Freezing the counter and updating the output for the rest of
  the **PWM** cycle overcomes these disadvantages, ensuring the flicker does
  not occur.
    The network interface for microcontroller...modules each connected to a
  respective light module. As long as at least two primary **color** LEDs are

used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, each **color** LED can emit light at any of 255 different intensities, depending on the duty cycle of **PWM** square wave, with a frill intensity pulse generated by passing maximum **current** through the LED. Further still, the maximum intensity can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the **current** regulators residing on the light module. Light modules of different maximum **current** ratings may thereby be conveniently interchanged.

The foregoing embodiment may reside in any number of...

...programmed microcontroller through respective A/D conversion means 15. Each potentiometer would control the current **duty cycle**, and thus the illumination intensity, of an individual **color** LED on LED board 25. With three settings each capable of generating a different byte from 0 to 255, a computer-controlled flashlight may generate twenty-four bit **color**. Of course, three individual potentiometers can be incorporated into a single device, such as a...

...may also be used to program the two or three registers necessary to set the **color**. A non-hand held embodiment of the present invention may be used as an underwater swimming pool light. Since the present invention can operate at relatively low **voltages** and low **current**, it is uniquely suited for safe underwater operation.

Similarly, the present invention may be used...

20/3,K/2   (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01335198
True color flat panel display using an LED dot matrix and LED dot matrix drive method and apparatus
Flache Anzeigeeinheit fur Echtfarben mit LED Punktmatrix und Ansteuermethode und Ansteuerschaltung fur LED Punktmatrix
Ecran plat de visualisation de couleurs vraies avec matrice de points DEL et circuit et procede de commande pour matrice de points DEL
PATENT ASSIGNEE:
  Cree, Inc., (1192465), 4600 Silicon Drive, Durham, North Carolina
    27703-8475, (US), (Applicant designated States: all)
INVENTOR:
  Van de Ven, Anthony P., No. 9 Green Peak Villa, Poloche Sai Kung, N.T.
    Hong Kong, (CN)
  Swoboda, Charles M., 709 Walcott Way, Morrisville, N.C. 27560, (US)
LEGAL REPRESENTATIVE:
  Warren, Anthony Robert et al (37331), BARON & WARREN, 18 South End,
    Kensington, London W8 5BU, (GB)
PATENT (CC, No, Kind, Date): EP 1139325 A1 011004 (Basic)
APPLICATION (CC, No, Date): EP 2001202440 961220;
PRIORITY (CC, No, Date): US 580771 951229; US 658440 960610
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU;
  MC; NL; PT; SE
RELATED PARENT NUMBER(S) - PN (AN):
  EP 989539 (EP 99203882)
  EP 870294 (EP 96944869)
INTERNATIONAL PATENT CLASS: G09G-003/32; G09F-009/33; H01L-025/075
ABSTRACT WORD COUNT: 70
NOTE:
  Figure number on first page: 12

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
     CLAIMS A (English) 200140   1183
     SPEC A   (English) 200140   10048
Total word count - document A   11231

Total word count - document B   0
Total word count - documents A + B   11231

...SPECIFICATION matrix LED flat panel display module which is capable of
   displaying approximately 16.7 million **colors** by combining red (660 nm),
   green (525 nm), and blue (430 nm) **LEDs** by mixing and **pulse width
   modulation** . By combining modules either horizontally, vertically, or
   both, virtually any size display board can be constructed. The module
   contains combination shift register, latch and constant **current** driver
   integrated circuits and row drive field effect transistors (FETs). The
   module may use a...

...four row multiplexed drive method or dual 8 row multiplexed drive method
   with 1/8 **duty cycle** for maximum brightness and minimum clock speeds.
      Data is displayed on the module using multiplexing...

20/3,K/3   (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01132169
**Pixel   with   LEDs   having   top   contacts   in   one   plane,   and   displays
    incorporating the same**
Pixel mit den Kopfkontakten der LEDs in einer Ebene und Displays
Pixel avec les contacts hauts des DELs dans un plan et afficheurs
PATENT ASSIGNEE:
  CREE, INC., (1192464), 4600 Silicon Drive, Durham, NC 27703, (US),
     (Proprietor designated states: all)
INVENTOR:
  Van de Ven, Anthony P., No. 9 Green Peak Villa, Poloche, Sai Kung, N.T.,
     Hong Kong, (HK)
  Swoboda, Charles M., 709 Walcott Way, Morrisville, N.C. 27560, (US)
LEGAL REPRESENTATIVE:
  Warren, Anthony Robert et al (37331), BARON & WARREN, 18 South End,
     Kensington, London W8 5BU, (GB)
PATENT (CC, No, Kind, Date): EP 989539 A1 000329 (Basic)
                              EP 989539 B1 020612
APPLICATION (CC, No, Date):   EP 99203882 961220;
PRIORITY (CC, No, Date): US 580771 951229; US 658440 960610
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI;
  LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
RELATED PARENT NUMBER(S) - PN (AN):
  EP 870294 (EP 96944869)
RELATED DIVISIONAL NUMBER(S) - PN (AN):
  EP 1139325 (EP 2001202440)
INTERNATIONAL PATENT CLASS: G09G-003/32; G09F-009/33; H01L-025/075
ABSTRACT WORD COUNT: 139
NOTE:
  Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language   Update   Word Count
     CLAIMS A (English) 200013   1629
     CLAIMS B (English) 200224   1365
     CLAIMS B   (German) 200224   1360
     CLAIMS B   (French) 200224   1513
     SPEC A   (English) 200013   10049
     SPEC B   (English) 200224   8365
Total word count - document A   11680
Total word count - document B   12603
Total word count - documents A + B   24283
...SPECIFICATION combining red (660 nm), green (525 nm), and blue (430 nm)
   LEDs by mixing and **pulse width modulation** . By combining modules
   either horizontally, vertically, or both, virtually any size display
   board can be constructed. The module contains combination shift register,

latch and constant **current** driver integrated circuits and row drive
field effect transistors (FETs). The module may use a...

...four row multiplexed drive method or dual 8 row multiplexed drive method
with 1/8 **duty** **cycle** for maximum brightness and minimum clock speeds.
Data is displayed on the module using multiplexing...

...SPECIFICATION matrix LED flat panel display module which is capable of
displaying approximately 16.7 million **colors** by combining red (660 nm),
green (525 nm), and blue (430 nm) **LEDs** by mixing and **pulse** **width**
modulation . By combining modules either horizontally, vertically, or
both, virtually any size display board can be constructed. The module
contains combination shift register, latch and constant **current** driver
integrated circuits and row drive field effect transistors (FETs). The
module may use a...

...four row multiplexed drive method or dual 8 row multiplexed drive method
with 1/8 **duty** **cycle** for maximum brightness and minimum clock speeds.
Data is displayed on the module using multiplexing...

 20/3,K/4   (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00500208
DIGITALLY CONTROLLED ILLUMINATION METHODS AND SYSTEMS
SYSTEMES ET PROCEDES D'ECLAIRAGE A COMMANDE NUMERIQUE
Patent Applicant/Assignee:
  COLOR KINETICS INCORPORATED,
Inventor(s):
  MUELLER George G,
  LYS Ihor A,
  MORGAN Frederick Marshall,
  BLACKWELL Michael K,
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  Detailed Description

Detailed Description
... LED will go through nearly two cycles without experiencing the zero
  current state of its **duty** **cycle** . For instance, assume the red
  register is set at 4 and the counter is set...

...it is frozen. Here, the counter is frozen just before the "off part" of
  the **PWM** cycle is to occur for the red **LEDS** . Now assume that the
  network data changes the value in the red register from four...

...intensity value in the red register, the output state is still "on",
  meaning that maximum **current** is still flowing through the red **LEDS** .
  Meanwhile, the blue and green **LEDs** will probably turn off at their
  appropriate times in the **PWM** cycle. This would be perceived by the
  human eye as a red flicker in the course of dimming the **color**
  intensities. Freezing the counter and updating the output for the rest of

the **PWM** cycle overcomes these disadvantages, ensuring the flicker does not occur.

The microprocessors that provide the...modules each connected to a respective light module. As loncy as at least two primary **color** LEDs are used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, each **color** LED can emit light at any of 255 different intensities, depending on the duty cycle of **PWM** square wave, with a full intensity generated by passing maximum **current** through the LED. Further still, the maximum intensity can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the **current** regulators residing on the light module. Light 1 5 modules of different maximum **current** ratings may thereby be conveniently interchanged.

In an alternative embodiment of the invention, a special...of color-emitting semiconductor dies Grouped together in one structural unit.

Alternatively, the array of **color** -emitting semiconductor dies can comprise a plurality of structural units, each comprising at least one **color** -emitting semiconductor die. An LED system can further comprise a plurality of structural units, each unit comprising a plurality of **color** -emitting semiconductor dies. It is understood that as long as at least two primary **color** LEDs are used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, as described in part in the foregoing specification, each **color** LED can emit light at any of a large number of different intensities, depending on the duty cycle of **PWM** square wave, with a full intensity pulse generated by I 0 passing maximum **current** through the LED. The term brightness, as used herein, is understood to refer to the can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the processors residing on the light module.

1 5 In one...

 20/3,K/5   **(Item 2 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
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00479515   **Image available**
MULTICOLORED LED LIGHTING METHOD AND APPARATUS
PROCEDE   ET   DISPOSITIF   POUR   ECLAIRAGE   MULTICOLORE   A   DIODES ELECTROLUMINESCENTES
Patent Applicant/Assignee:
 COLOR KINETICS INCORPORATED,
Inventor(s):
 MUELLER George G,
 LYS Ihor A,
Patent and Priority Information (Country, Number, Date):
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 VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
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Publication Language: English
Fulltext Word Count: 7422
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 Detailed Description
 Claims

Detailed Description
... addresses some, but not all of the switching problems associated with
Phares. Havel uses a **pulse width modulated** signal to provide
current to respective **LEDs** at a particular **duty cycle** . However, no
provision is made for precise and rapid control over the **colors**
emitted. As a stand alone unit, the apparatus in Havel suggests away from
network lighting, and therefore lacks any teaching as to how to implement
a **pulse width modulated** computer lighting network.

Further, Havel does not appreciate the use of LEDs beyond mere ...LED
will go through nearly two cycles without experiencing the zero current
state of its **duty cycle** . For instance, assume the red register is set
at 4 and the counter is set...

...it is frozen. Here, the counter is frozen just before the "off part" of
the **PWM** cycle is to occur for the red **LEDS** . Now assume that the
network data changes the value in the red register from 4...
...intensity value in the red register, the output state is still "on",
meaning that maximum **current** is still flowing through the red I 0 **LEDS**
. Meanwhile, the blue and green **LEDs** will probably turn off at their
appropriate times in the **PWM** cycle. This would be perceived by the
human eye as a red flicker in the course of dimming the **color**
intensities. Freezing the counter and updating the output for the rest of
the **PWM** cycle overcomes these disadvantages, ensuring the flicker does
not occur.

5 The network interface for...modules each connected to a respective
light module. As long as at least two primary **color** LEDs are used, any
illumination or display **color** may be generated simply by preselecting
the light intensity that each **color** LED emits. Further, each **color**
LED can emit light at any of 255 different intensities, depending on the
duty cycle of **PWM** square wave, with a frill intensity pulse generated
by passing I 0 maximum **current** through the LED. Further still, the
maximum intensity can be conveniently programmed simply by adjusting the
ceiling for the maximum allowable **current** using programming resistances
for the **current** regulators residing on the light module. Light modules
of different maximum **current** ratings may thereby be conveniently
interchanged.
The foregoing embodiment may reside in any number of...n@iicrocontroller
through respective A/D conversion means 15. Each potentiometer would
control the current **duty cycle** , and thus the illumination intensity,
of an individual **color** LED on LED board 25. With three settings each
capable of generating a different byte from 0 to 255, a
computer-controlled flashlight may generate twenty-four bit **color** . Of
course, three individual potentiometers can be incorporated into a single
device, such as a...

...may also be used to program the two or three registers necessary to set
the **color** . A non-hand held embodiment of the present invention may be
used as an underwater swimming pool light. Since the present invention
can operate at relatively low **voltages** and low **current** , it is
uniquely suited for safe underwater operation.

Similarly, the present invention may be used...

Claim
... unit further correspond to the third color LED, the control means
further generates a third **pulse width modulated** signal having a
duty cycle corresponding to the third **color** LED intensity value,
whereby the third **pulse width modulated** signals is alternately in a
high or a low state, and the **current** switching means further applies
current to the third **color** LED when the third **pulse width
modulated** signal is in one of either the
high or the low state.

19 The network...

 20/3,K/6   (Item 3 from file: 349)
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00407389
ILLUMINATOR ASSEMBLY INCORPORATING LIGHT EMITTING DIODES
ENSEMBLE D'ECLAIRAGE COMPORTANT DES DIODES ELECTROLUMINESCENTES
Patent Applicant/Assignee:
  GENTEX CORPORATION,
Inventor(s):
  TURNBULL Robert R,
  KNAPP Robert C,
  ROBERTS John K,
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  FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW
  MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN GH KE LS MW
  SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT
  LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 21802
Fulltext Availability:
  Detailed Description

Detailed Description
... presence of illumination from the two additive constituents of the
  mixture.

  In addition to manipulating **color** , the microprocessor U I can **pulse -
  width   modulate** the LED **currents** for purposes of thermal de-rating. A
  microprocessor U I with internal or external temperature measurement
  means (THI) can modulate the LED **currents** to very precisely follow the
  manufacturers' specified **current** ratings at each temperature as
  illustrated by the curve (2203) in Figure 22 labeled "Design **Current**
  for Software-Controlled Temperature Compensation". In the case of
  microprocessor controlled thermal de-rating, the **current** limiting means
  must provide a **current** greater than or equal to the maximum of the
  design **current** for software control. For the amber **LEDs** DI -133 in
  the example in figure 22 the **current** limiting means must provide at
  least 48mA. This would require changing the value of RI...

...Figure 21 to 14 Ohm. At 70' Celsius the microprocessor Ul would begin 1
  5 **pulse - width - modulating** the **current** through DI -D3 in Figure 21
  to reduce the average **current** to safe levels using a lookup table,
  calculation or other means to determine the correct **duty   cycle** .
  Alternatively RI in figure 21 could be set to IO Ohm for a 68mA drive
  current and the **duty   cycle** set at 70% to maintain an average
  current less than the manufacturers limit. Obviously, there are an
  infinite number of **current** and **duty   cycle** combinations that can be
  used to maintain the required average **current** as long as the peak drive
   current does not exceed the LED manufacturer's peak **current** ratings.

  The invention has been described in detail for a rearview mirror
  incorporating an illuminator...
?

01102968
Optical display device using LEDs and its operating method
Optische Anzeigevorrichtung mit Leuchtdioden und Steuerverfahren dafur
Dispositif d'affichage optique utilisant des diodes electroluminescentes et
    sa methode de commande
PATENT ASSIGNEE:
  Hewlett-Packard Company, (206031), Mail Stop 20 B-O, 3000 Hanover Street,
    Palo Alto, California 94304, (US), (Applicant designated States: all)
INVENTOR:
  Pross, Gerhard, Herdweg 20, 71039 Weil im Schonbuch, (DE)
  Seher, Jens-Peter, Remppisstrasse 9, 70599 Stuttgart, (DE)
  Maile, Markus, Adlerstrasse 9, 71032 Boblingen, (DE)
LEGAL REPRESENTATIVE:
  Harbach, Thomas et al (60392), Agilent Technologies Deutschland GmbH
    Patentabteilung Herrenbergerstrasse 130, 71034 Boblingen, (DE)
PATENT (CC, No, Kind, Date): EP 967590 A1 991229 (Basic)
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EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
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      SPEC A   (English)   199952   2936
Total word count - document A   3484
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Total word count - documents A + B   3484

...SPECIFICATION voltage class. To set the current, the LEDs are provided
   with series resistors, where the **resistance   values** are selected as a
   function of the forward **voltage** class of the respective **LEDs** .
     It would essentially be advantageous to also use LEDs for
   implementation of the incandescent bulbs...

...same brightness is lower by a factor of 4 to 5.
     Nevertheless, in implementation of **LEDs** , especially for brake lights
   and taillights, with the possible implementations available in the past
   there...
...additional heat problems with the LED brake lights known in the past,
   the number of **LEDs** per light is preferably selected as an integral
   multiple of 3 or 4. The arrangement...

...and/or semiconductor components on the LED circuitboard represents an
   additional thermal stress for the **LEDs** . Another problem for mass
   production of such lights is the different forward **voltage** classes of
   the **LEDs** because a mixed assembly is impossible especially with the
   above-mentioned matrix circuit with a series connection of a maximum of 3
   to 4 parallel connections of n **LEDs** in the same forward **voltage**
   class. Consequently, several different forward **voltage** classes must be
   processed for each light project, which leads to an undesirable variety
   of variants. With the series resistors used in the past, the working
   point of the **LEDs** can be **set** only for one **voltage** value of the
   on-board **voltage** in the vehicle, so that the wide distribution of the
   forward **voltages** of an LED within one class always leads to a blurred
   setting of the working...

...a resistance circuit. Superpositioning of several tolerances (reflector
   quality, geometric tolerances, band width of the **brightness** classes,

resistance tolerances, band width of the forward **voltage** classes, transmittance of the light disk and the optically effective elements) can lead on the...on the angle of observation).

The first control circuit means have a corresponding number of **current** sources, depending on the number of **LEDs** and the arrangement either all in rows or with several columns connected in parallel with **LEDs** connected in series. By means of the controllable **current** sources, the desired **brightness** can be **set** by setting the **current** . The second control circuit means, controlled by the first control circuit means, automatically **set** the proper **voltage** needed, depending on the circuit arrangement and the **current** **set** . Thus, the **voltage** must be adjusted upward by the second control circuit means in comparison with the **voltage** supplied by the wiring system when using only one column with a plurality of **LEDs** in series, whereas the **voltage** is reduced with an arrangement of several parallel columns with a few **LEDs** . In addition, the combination of upwards and downwards conversion is possible.

To achieve a minimal...Figure 4 shows the design of the load and shows several parallel connected columns of **LEDs** 9 connected in series, where each series connection is assigned to a **current** source which is connected to a logic circuit 8. Logic circuit 8 is connected to control circuit 5 over line 7. A constant **current** in each branch is guaranteed by means of **current** sources 15 because of the parallel connection of the individual LED branches 9, so the constant **currents** are applied by means of **current** sources 15 which are connected to control circuit 11. In the embodiment according to Figures 3 and 4, control circuit 5 is **set** at a lower **voltage** , e.g., 8.5 **volt** , than the on-board vehicle network due to the parallel connection of individual LED columns. In both embodiments, the (**current** required) for the desired **brightness** is **set** and programmed after manufacture of the arrangement, taking into account the manufacturing tolerances. The respective **voltage** is then established as a function of the applied **current** , where control circuit 5 is always **set** at the lowest required **voltage** for optimum operation of the **LEDs** .

Terminal 16 on logic circuit means 8 is used for external setting and programming of...

00818723
Active driven led matrices
Aktive Steuerung fur Anzeigetafeln mit Leuchtdioden
Commande active pour matrices de diodes electroluminescentes
PATENT ASSIGNEE:
  MOTOROLA, INC., (205770), 1303 East Algonquin Road, Schaumburg, IL 60196,
    (US), (applicant designated states: DE;FR;GB)
INVENTOR:
  Shieh, Chan-Long, 6739 E. Bar Z Lane, Paradise Valley, Arizona 85253,
    (US)
  Lee, Hsing-Chung, 23246 Park Ensenada, Calabasas, California 91302, (US)
  So, Franky, 195 W. Calle De Caballos, Tempe, Arizona 85284, (US)
LEGAL REPRESENTATIVE:
  Hudson, Peter David (52401), Motorola, European Intellectual Property
    Operations, Midpoint Alencon Link, Basingstoke, Hampshire RG21 7PL,
    (GB)
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...SPECIFICATION represents the amount of voltage required to produce the intensity, I, produced by a specific **light emitting diode** (e.g. diode 10). All of the anodes of the **light emitting diodes** are connected together and to the output terminal of **voltage** source 30. In the operation, a first step of **voltage** (e.g. I=1) is applied to the output terminal (all of the anodes of...

...to ground) that requires a first level or shade of gray. A second step of **voltage** (e.g. I=2) is applied to the output terminal (all of the anodes of...

?